Paper No. 23

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte STEPHEN R. LEWIS et al.

Appeal No. 2001-0373
Application No. 09/122,255

ON BRIEF

Before ABRAMS, STAAB, and NASE, Administrative Patent Judges.
NASE, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1 to 4, which are all of the claims pending in this application.

We REVERSE.

BACKGROUND

The appellants' invention relates to poppet valves in fuel supply systems (specification, p. 1). A copy of the claims under appeal is set forth in the appendix to the appellants' brief.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Sorenson	3,762,443	Oct. 2, 1973
Harris	4,580,760	Apr. 8, 1986

Claims 1 to 4 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Harris.

Claims 1 to 4 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Sorenson.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellants regarding the above-noted rejections, we make reference to the final rejection (Paper

No. 13, mailed December 1, 1999) and the answer (Paper No. 20, mailed July 10, 2000) for the examiner's complete reasoning in support of the rejections, and to the brief (Paper No. 19, filed May 8, 2000) and reply brief (Paper No. 21, filed August 15, 2000) for the appellants' arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellants' specification and claims, to the applied prior art references, and to the respective positions articulated by the appellants and the examiner. As a consequence of our review, we find ourselves in agreement with the position of the appellants as set forth in the brief (pp. 13-17) and reply brief (pp. 1-7) that claims 1 to 4 are not anticipated by either Harris or Sorenson.

To anticipate a claim, a prior art reference must disclose every limitation of the claimed invention, either explicitly or inherently. In re Schreiber, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997). As stated in In re Oelrich, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981)

(quoting Hansgirg v. Kemmer, 102 F.2d 212, 214, 40 USPQ 665, 667 (CCPA 1939)) (internal citations omitted):

> Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. If, however, the disclosure is sufficient to show that the natural result flowing from the operation as taught would result in the performance of the questioned function, it seems to be well settled that the disclosure should be regarded as sufficient.

Thus, a prior art reference may anticipate when the claim limitation or limitations not expressly found in that reference are nonetheless inherent in it. See In re Oelrich, 666 F.2d at 581, 212 USPQ at 326; Verdegaal Bros., Inc. v. Union Oil Co., 814 F.2d 628, 630, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Under the principles of inherency, if the prior art necessarily functions in accordance with, or includes, the claimed limitations, it anticipates. See In re King, 801 F.2d 1324, 1326, 231 USPQ 136, 138 (Fed. Cir. 1986). However, inherency is not necessarily coterminous with the knowledge of those of ordinary skill in the art. See Mehl/Biophile Int'l Corp. v. Milgraum, 192 F.3d 1362, 1365, 52 USPQ2d 1303, 1305-06 (Fed. Cir. 1999); Atlas Powder Co. v. Ireco Inc., 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1946-47 (Fed. Cir. 1999).

Claim 1 on appeal is directed to a poppet valve, comprising, inter alia, (1) a valve body including a bore therein, the bore having an inlet port for admitting fluid to the bore and at least one seat; and (2) a spool having an annular groove, the spool disposed in the bore slideably between a fully open position in which the spool is spaced from the seat and the seat is fluidly connected to the inlet port via the annular groove, and a closed position in which the spool is engaging the seat. Claim 4 on appeal is directed to a method for configuring a poppet valve for use in a valve including a valve body, comprising the steps of (1) forming a bore in the valve body; (2) forming a fluid passage in the valve body, the fluid passage terminating at an inlet port in the bore to fluidly connect the fluid passage with the bore via the inlet port; (3) forming a seat in the bore; (4) forming a spool having a surface, an annular groove in the surface, and a non-uniform diameter, and configured to be able to engage with the seat in the bore so as to block fluid communication past the seat in the bore; and (5) slideably disposing the spool in the bore, such that the spool is slideable in the bore between a first position in which the spool is spaced from the seat so as to provide fluid communication from the inlet port, through the annular groove, and past the seat, and a second position, in which

the spool engages with the seat so as to block fluid communication past the seat. Claims 1 and 4 both further recite that "when the spool is at the fully open position the circumference of the inlet port multiplied by its average distance from the spool does not substantially exceed the smallest annular cross-sectional area between the spool and the seat" (the "extent limitation").

Claim 2 on appeal is directed to a poppet valve, comprising, inter alia, (1) a valve body including a bore therein, the bore comprising an inlet port for admitting fluid to the bore and at least one seat; (2) a spool disposed in the bore slideably between at least a fully open position in which the spool is spaced from the seat, and a closed position in which the spool is engaging the seat, and (3) an annular groove in the spool. Claim 2 further recites "pressure controlling means for keeping static fluid pressure from developing in the annular groove when the spool is at the fully open position and fluid is flowing from the inlet port to the seat via the annular groove" (the "pressure controlling limitation"). Claim 3 depends from claim 2 and provides that the pressure controlling means comprises "a configuration of the annular groove such that when the spool is at the fully open position the circumference of the inlet

port multiplied by its average distance from the spool does not substantially exceed the smallest annular cross-sectional area between the spool and the seat" (the "extent limitation").

The position of the examiner as set forth in the rejections before us in this appeal (final rejection, pp. 2-3) is that claims 1 to 4 are anticipated by either the valve shown in Figure 2 of Harris or the valve shown in Figure 2 of Sorenson since the "extent limitation" was met by either valve. In the answer (pp. 3-4), the examiner set forth measurements taken from Figure 2 of Harris using an engineering scale ruler. From those measurements the examiner calculated that the "extent limitation" was met by the valve shown in Figure 2 of Harris. With respect to Sorenson the examiner declared that it is obvious that the "extent limitation" was met by the valve shown in Figure 2.

We find the examiner's position to be without merit. First, it is well-settled that patent drawings are not drawn to scale and accordingly, an examiner's argument based upon measurement of the patent drawings are of little value. See In re Chitayat, 408 F.2d 475, 478, 161 USPQ 224, 226 (CCPA 1969); In re Wright, 569 F.2d 1124,

1127, 193 USPQ 332, 335 (CCPA 1977); Ex parte Oetiker, 23 USPQ2d 1651, 1653 (Bd. of Pat. App. & Int. 1990), rev'd on other grounds, In re Oetiker, 977 F.2d 1443 24 USPQ2d 1443 (Fed. Cir. 1992). Second, after reviewing the disclosures of both Harris and Sorenson, we conclude there is no disclosure in either reference that their respective valves necessarily function in accordance with, or includes, the above-noted claimed limitations (i.e., the "extent limitation" or the "pressure controlling limitation").

Since all the limitations of claims 1 to 4 are not disclosed in either Harris or Sorenson for the reasons set forth above, the decision of the examiner to reject claims 1 to 4 under 35 U.S.C. § 102(b) is reversed.

CONCLUSION

To summarize, the decision of the examiner to reject claims 1 to 4 under 35 U.S.C. § 102(b) is reversed.

REVERSED

NEAL E. ABRAMS Administrative Patent Judge	)	
LAWRENCE J. STAAB Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
JEFFREY V. NASE Administrative Patent Judge	)	

CATERPILLAR INC
ATTN ERIC M. BRAM
IP DEPT - AB6490
100 N E ADAMS STREET
PEORIA, IL 61629-6490

JVN/jg